

ABSTRACT

5 A fractal structure is formed to have a
plurality of regions different in fractal dimension
characterizing the self-similarity. The fractal
structure is grown from one or more origins under
growth conditions providing a first fractal dimension
in a first portion of the growth process from the start
point of time to a first point of time, and under
growth conditions providing a second fractal dimension
lower than the first fractal dimension in another
portion of the growth process from the first point of
time to a second point of time. By adjusting the
timing for changing the growth conditions, the fractal
structure is controlled in nature of phase transition,
such as critical temperature for ferromagnetic phase
transition, which occurs in the fractal structure. For
enhancing the controllability, the first fractal
dimension is preferably larger than 2.7 and the second
fractal dimension is preferably smaller than 2.3.